Water for Life

TMED Series

Consistent & Reliable Water Quality for Hemodialysis

TEMAK®
TOTAL WATER SOLUTIONS

TMED Series - Water Treatment Systems for Hemodialysis

Consistent and reliable water quality is a key requirement for successful hemodialysis treatment. TEMAK has long experience in providing Health Services and through research and innovations has developed the TMED series. The TMED series consists of modern water treatment systems, customized each time to the specific needs of each application. Having installed more than 150 plants worldwide, TEMAK has already gained the trust of its customers in its ability to provide the most appropriate solutions for excellent dialysis water.

TMED1 Series

A stand alone and mobile water purification system equipped with all the stages of treatment on the Skid. The key treatment step utilizes reverse osmosis technology (R/O), designed to operate at low recovery thus minimizing the need for additional pre-treatment equipment (turbidity filters/ softeners).

It is this design feature which makes it highly compact and mobile, thus being also an ideal solution, even for one patient alone. The standalone portable unit has all the necessary equipment built in to make the finished product perfectly suitable for dialysis.

Model	Production (L/h)	Hemodialysis Machines*
TMED11	100	1
TMED12	200	3

* Approximate requirement of hemodialysis machines: 50 L/h.

Online Distribution or Intermediate Tank

Online Distribution
The water produced (R/O product) from the two RO plants operating in series, is sent directly to the distribution loop "online" without the need of an intermediate tank or additional equipment. The amount of water required to cumulatively meet the needs for treated water is provided by the RO plants.

Intermediate Tank
The purified water from the two RO operating in series, is first stored in an intermediate tank before being distributed to the loop. This means, distribution pumps are necessary as well as additional disinfection equipment (UV /Microbial filters) to eliminate the possibility of potential microbial growth in the tank.

«All systems of the TMED series are CE medical certified. TEMAK is certified according to ISO 13485 for the study, design, production, installation, distribution, and technical support of water treatment systems for hemodialysis.»

In accordance with the international standards: Annex V of the Medical Device Directive 93/42/EEC., Association for the Advanced Medical Instrumentation (AAMI), ISO/ICS 8673, European Directorate for the Quality of Medicines & Health Care, European Pharmacopoeia (PhEur), US Pharmacopoeia.

TMED2 Series

The TMED2 Series provides complete solutions for Centralized Water purification systems for multiple hemodialysis machines.

Models of TMED2 Series produce highly purified water according to the most stringent international standards as per the requirements of modern hemodialysis machines and all types of hemodialysis methods (conventional and online HDF)

The systems are usually designed with two RO units in series (double pass) thus producing water of excellent quality and constant flow which is sent directly "online" to the distribution loop.

Model	Production (L/h)	Hemodialysis Machines for Online Distribution *
TBW22/21	300	5
TBW23/22	600	10
TBW24/23	900	15
TBW25/24	1.100	19
TBW26/25	1.300	22
TBW28/26	1.600	27
TBW210/28	2.000	34

* Approximate requirement of hemodialysis machines: 50 L/h

Note: TMED2 can be offered on request covering 45 hemodialysis beds.

TMED2HOT Series

Faithful to our values for development and innovation we produced the TMED2HOT series.

The systems are designed to provide highly purified water for hemodialysis machines through two RO units in series (double pass) with an integrated heat disinfection system.

Advantages of TMED2HOT are the following:

- The integrated heat disinfection system sanitizes the distribution loop as well as the Reverse Osmosis membranes with hot water.
- A more efficient method of disinfection in less time.
- Eliminates the appearance of any chemical substances in the hemodialysis machines due to the use of thermal disinfection method.

- Eliminates the need to purchase, transport and store disinfectant chemicals.
- All RO skid piping is made of Hygienic SS316L having special roughness against microbial growth.
- All connections are with tri-clamp (hygienic type).
- The hot water tank is made from Hygienic INOX SS316L with special roughness against microbial growth and a double layer for the reduction of heat loss.
- Advanced control via the Programmable logic controller.

Note: The capacities of the TMED2HOT series are equivalent to the TMED2 series.

SPECIAL FEATURE - TMED2 & TMED2HOT series

- The pre-treatment equipment is 100% in duty/standby configuration ensuring the continuous supply of water to the RO units in the event of failure of one of the two equipment.
- Each of the two softeners installed is sized to provide softened water to the RO unit for the duration of the daily shifts, thus preventing from the interruption of the process in the case that one softener goes offline,
- Each RO unit, of the two installed in series is designed to be able to provide excellent water quality.
- The RO systems have an automatic bypass fault tolerance system, allowing for the uninterrupted operation, in the event that one RO system goes offline.
- The systems include equipment for the regulation of the pressure in the distribution loop thus ensuring the hemodialysis machines operate under consistent conditions, ensuring a problem free hemodialysis session.
- Aseptic valves are installed at critical points for sampling and monitoring the product water quality.

Benefits with TEMAK

- ✓ Highly purified water according to International Standards
- ✓ Continuous supply of water to dialysis machines for an uninterrupted dialysis session through smart automation and 100% backup at each stage of water treatment
- ✓ Quality of manufacture, installation and maintenance
- ✓ Durable with guaranteed operating performance
- ✓ Study and design of integrated solutions according to the real needs of the clients
- ✓ Complete annual technical prevention contracts for TMED systems, fully adapted to the needs of the Hemodialysis Units
- ✓ Telephone support and immediate response for emergency intervention and repair
- ✓ After Sales support and service
- ✓ Stock of consumables and spare parts

- Integrated Solutions
- Study, Design, Manufacture and System Installation
- Top quality and reliability with respect to the environment
- Immediate technical support
- Short delivery times
- Competitive prices
- Proper material selection
- Availability of consumables and spare parts
- Support for funded projects
- System improvement advice
- Annual technical prevention contracts
- Harmonization with international and environmental regulations

The Greek company TEMAK meets with reliability and consistency, all the needs for drinking water, production and various other uses. In TEMAK we Study, Design, Manufacture, Produce, Install and Support Water Treatment Systems, as we have a full range of certified water treatment products, as well as fluid control and industrial equipment. The Integrated Solutions we offer come in full compliance with our customers' requirements, needs and specifications. Many Municipalities, Industries, Hotels, Individuals, Hospitals & Clinics, Power Plants, Greenhouses & Fish Farms in Greece and Abroad trust TEMAK.

TEMAK®
ΟΛΟΚΛΗΡΩΜΕΝΕΣ ΛΥΣΕΙΣ ΝΕΡΟΥ

WATER VALUE AMBASSADOR
• ATHENS 1980 •

ISO 9001 ISO 14001 ISO 45001 ISO 50001 ISO 22000 ISO 22301

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